



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,138	08/24/2005	Urs Burckhardt	122483	3995
25944	7590	08/29/2007	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			HEINCER, LIAM J	
ART UNIT		PAPER NUMBER		
1709				
MAIL DATE		DELIVERY MODE		
08/29/2007		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/522,138	BURCKHARDT, URS	
	Examiner	Art Unit	
	Liam J. Heinrich	1709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 24 January 2005.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-16 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)	5) <input type="checkbox"/> Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "if desired" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

Considering Claim 1: In the present instance, claim 1 recites the broad recitation "at least one heteroatom", and the claim also recites "in particular at least one ether oxygen" which is the narrower statement of the range/limitation.

In the present instance, claim 1 also recites the broad recitation "a ring size of between 5 and 8", and the claim also recites "preferably 6" which is the narrower statement of the range/limitation.

Considering Claim 8: In the present instance, claim 8 recites the broad recitation "preparing an aldehyde B from a carboxylic acid and a  $\beta$ -hydroxy aldehyde", and the claim also recites "in particular without the use of a solvent" which is the narrower statement of the range/limitation.

Considering Claim 9: In the present instance, claim 9 recites the broad recitation "preparing an aldehyde B from a carboxylic acid and a 3-hydroxypivalaldehyde", and the claim also recites "in particular without the use of a solvent" which is the narrower statement of the range/limitation.

Considering Claim 14: In the present instance, claim 14 recites the broad recitation "water in the gaseous aggregate state", and the claim also recites "in particular in the form of atmospheric moisture" which is the narrower statement of the range/limitation.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Considering Claim 2: Instant claim 2 contains the trade name Jeffamine<sup>®</sup>. The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product, as the trade name is used to mark the maker of the product rather than the product itself. See MPEP §2173.05(u).

Claims 11-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11-13 provide for the use of a polyaldimine, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 11-13 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 1: Merger et al. teaches a polyalldimine (3:3-4) which is obtainable from at least one polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using an aldehyde of the claimed formula in a polyalldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyalldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the composition of Merger et al., and the motivation

to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Considering Claim 2: Merger et al. teaches the polyamine as being 1,6-hexamethylene diamine, 2,2,4-trimethylhexanamethylenediamine (7:57-58) or IPDA (8:13-14).

Considering Claims 3 and 4: Claims 3 and 4 are product by process claims. There is nothing on the record to show that these process steps will provide a materially different composition from those of the references.

Considering Claim 5: Merger et al. teaches the aldehyde as being present stoichiometrically, or in a stoichiometric excess (7:31-33).

Considering Claim 6: Merger et al. teaches an aldehyde with methyl groups at the alpha position (7:22-31 and 3:59-62).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 7: Merger et al. teaches a process for preparing a polyaldimine (7:17-22) comprising reacting a polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using a aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the process of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claims 11 and 12: Merger et al. teaches a polyaldimine (3:3-4) which is obtainable from at least one polyamine having aliphatic primary amino groups (7:48-62)

and at least one aldehyde (8:67-9:17). Merger et al. also teaches the composition being in a composition comprising isocyanate groups (2:65-66).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using a aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Considering Claim 13: Merger et al. teaches using the composition as a sealant, or coating (10:26-28).

Claims 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161).

Considering Claim 14: Merger et al. teaches a polyaldimine (3:3-4) which is obtainable from at least one polyamine having aliphatic primary amino groups (7:48-62) and at least one aldehyde (8:67-9:17). Merger et al. also teaches the polyaldimine as undergoing hydrolysis when contacted with moisture/gaseous water (9:37-38).

Merger et al. does not teach the aldehyde as having the claimed formula. However, Aoki et al. teaches using a aldehyde of the claimed formula in a polyaldimine (Formula IV). Merger et al. and Aoki et al. are combinable as they are concerned with the same field of endeavor, namely polyaldimine compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde of Aoki et al. in the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. suggests, it is presented as a functional equivalent to the aldehyde of Merger et al. (8:5-6).

Considering Claim 16: Merger et al. teaches the composition being in a composition comprising isocyanate groups (2:65-66).

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 7 above, and further in view of Jacobsen et al. (US Pat. 3,935,274).

Considering Claims 8 and 9: Merger et al. and Aoki et al. collectively teach the process of claim 7 as shown above.

Merger et al. does not teach preparing the aldehyde from a carboxylic acid and a  $\beta$ -hydroxy aldehyde. However, Aoki et al. teaches preparing the aldehyde from a carboxylic acid and 3-hydroxy-2,2, dimethyl propanol/3-hydroxypivalaldehyde (8:16-18). It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used a aldehyde prepared as in Aoki et al. in the process of Merger et al., and the motivation to do so would have been the composition's lower viscosity (Table 4).

Merger et al. does not teach the  $\beta$ -hydroxy aldehyde as being prepared from a reaction of formaldehyde or paraformaldehyde and a second alcohol. However, Jacobsen et al. teaches forming 3-hydroxypivalaldehyde from formaldehyde and isobutyraldehyde (1:7-10). Merger et al. and Jacobsen et al. are combinable as they are concerned with the same field of endeavor, namely aldehyde compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have used the aldehyde preparation of Jacobsen et al. in the process of Merger et al., and the motivation to do so would have been, as Jacobsen et al. suggests, to give a highly reactive  $\beta$ -hydroxy aldehyde (1:38-39).

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 7 above, and further in view of Wagner et al. (US Pat. 3,835,191).

Considering Claim 10: Merger et al. and Aoki et al. collectively teach the process of claim 7 as shown above.

Merger et al. does not teach there being no solvents used during the preparation of the polyaldimine. Howver, Wagner et al. teaches making an aldimine (1:44-48) with no solvents (10:40-44). Merger et al. and Wagner et al. are combinable as they are

concerned with the same technical difficulty, namely aldimine formation. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have not used solvents in the process of Merger et al. as in Wagner et al., and the motivation to do so would have been, as Wagner et al. suggests, to eliminate the removal of solvents step (15:28-30).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Merger et al. (US Pat. 4,853,454) in view of Aoki et al. (US Pat. 5,010,161) as applied to claim 1 above, and further in view of Aoki et al. (JP 07025976). Note a machine translation is being used for Aoki et al. and all references will be to this translation.

Considering Claim 15: Merger et al. and Aoki et al. collectively teach the process of claim 1 as shown above. Merger et al. also teaches the polyaldimine as hydrolyzing the in presence of water (37-40).

Merger et al. does not teach adding a water-containing component to the composition. However, Aoki et al. '976 teaches adding water/a water-containing component (¶0005) to a composition comprising a polyamine containing latent curing agent/a polyaldamine (¶0006). Merger et al. and Aoki et al. '976 are combinable as they are concerned with the same field of endeavor, namely isocyanate compositions. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have added the water of Aoki et al. '976 to the composition of Merger et al., and the motivation to do so would have been, as Aoki et al. '976 teaches, to obtain a cured product (¶0005).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO form 892.

#### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MARK EASHOO, PH.D.  
SUPERVISORY PATENT EXAMINER

LJH

August 15, 2007

